

REMARKS

Claims 61, 62, 70, 72, 82, 89, 91, 96, 98, 100 and 102-104 have been amended. Claims 1-60, 63 and 71 have been canceled. Upon entry of this amendment, claims 61, 62, 64-70, 72 and 82-104 will be pending in the application.

The claims have been amended for greater consistency and to provide proper antecedent basis.

The Examiner's courteous telephone interview with the undersigned attorney on October 22, 2003 is appreciated.

Allowable Subject Matter

Applicants acknowledge the allowance of claims 65-70.

Claims 61-64, 72 and 82-104

Applicants respectfully request reconsideration of the rejection of claims 61-64, 72, 82-85 and 90-104 under 35 U.S.C. §102(a) as being anticipated by WO 98/07026 A1 (Windhab et al.) and of the rejection of claims 86-89 under 35 U.S.C. §103(a) as being unpatentable over the disclosure in Windhab et al. Applicants submit that the invention defined in these claims as amended is novel and patentable over Windhab et al.

The present invention is directed to methods for screening members of a combinatorial library (e.g., potential catalysts for a reaction of interest). The method of independent claim 61 is representative and comprises simultaneously flowing a test fluid through six or more vessels, each of which comprises a member of the combinatorial library. The test fluid simultaneously contacts the library members within the vessels. Following contact, changes in the test fluid are simultaneously detected and the changes correlated to a property of each of the library members. In accordance with the present invention, the flowrate of the test fluid is controlled to be about the same in the six or more vessels by simultaneously flowing the test fluid through six or more flow restrictors. The flow restrictors provide fluid communication between one of the vessels and either an entrance control volume, or alternatively, an exit control

volume and can be any passive structure that hinders fluid flow, including capillary tubes and micromachined channels.

As discussed with the Examiner during the above-mentioned telephone interview, claim 61 has been amended to more particularly define the claimed invention by incorporating features of dependent claim 63. That is, claim 61 as now amended requires that the flow restrictors exert the greatest resistance to fluid flow (i.e., pressure drop) along the flow paths between the entrance and exit control volumes and that the resistance to fluid flow be approximately the same in each flow restrictor such that the flowrate of the test fluid is approximately the same in each of the vessels. The catalyst screening variations defined in independent claims 62, 72 and 98 have been similarly amended to include these features. Controlling the flowrate of a test fluid (e.g., one or more reactants) to be about the same in the vessels is a significant advantage because the extent of change in the test fluid following contact with a library member (e.g., a candidate catalyst) depends on, among other things, the time a given amount of test fluid contacts the library member.

Windhab et al. disclose a process and device for simultaneously investigating potentially catalytic substances in a plurality of miniaturized reactors operated in parallel. The device depicted in Figs. 1 and 2 includes reactors 2 arranged in a square or rectangular pattern in a block-shaped arrangement 3 formed by block 4, spacer plates 9 and 12 and transparent windows 13. The miniature reactors (volume 0.001 to 1 cm³) and the supply and discharge connections for the supply of liquid and/or gaseous educts to the reactors and the removal of reaction products from the reactors are provided by drillings in the block/plate arrangement. In the disclosed embodiment, the drillings for the reactors are 4 mm, while the drillings 5 for the supply of educt and the drillings 10 for the withdrawal of product are both 2.5 mm. Fluid reactants are introduced through the drillings 5 into contact with the catalyst 8 disposed within the reactors 2 and reaction product mixtures exit the reactors

through drillings 10 into respective cuvette drillings 11 where the mixtures are subjected to spectroscopic analysis (e.g., IR).

As acknowledged by the Examiner in the telephone interview, the device disclosed by Windhab et al. does not disclose flow restrictors that exert the greatest resistance to fluid flow and a resistance that is approximately the same in each flow restrictor. That is, the reaction mixture withdrawal drillings 10 of the device disclosed by Windhab et al. equated with the flow restrictors called for in the claimed method do not satisfy these requirements of the invention as now claimed. As previously noted by applicants, the mere disclosure that the diameter of the purported flow restrictors (i.e., withdrawal drillings 10) is smaller than the diameter of the reactors in Windhab et al.'s device does not mean that the withdrawal drillings produce a greater resistance to fluid flow than the catalyst bed. Although the calculated area within these two components perpendicular to the direction of fluid flow is approximately 5 and 13 mm², respectively, the actual fluid flow area within the reactor is significantly diminished by the presence of the catalyst bed. It is not possible to determine, nor is there any suggestion by Windhab et al. that the withdrawal drillings exert the greatest resistance to fluid flow along the flow paths between the supply drillings and the cuvette drillings so as to control the flowrate of the fluid passing through the reactors to be approximately the same as required in the claimed method.

In view of the above, applicants respectfully submit that the invention defined in independent claims 61, 62, 72 and 98 and in claims 64, 82-97, 99-104 depending therefrom is not anticipated nor rendered obvious by the disclosure of Windhab et al.

Sixth and Seventh Supplemental Information Disclosure Statements

Applicants note that a Sixth Supplemental Information Disclosure Statement was filed on July 10, 2003.

* Enclosed herewith is a Seventh Supplemental Information Disclosure Statement.

Applicants request that in the next communication regarding this application, the Examiner provide copies of the initialed Forms PTO/SB/08A showing that all submitted citations have been considered and made of record.

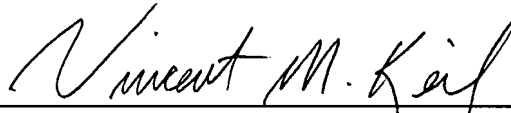
Conclusion

In view of the above, it is respectfully submitted that the pending claims are clearly patentable over the art of record.

Favorable reconsideration and allowance of all pending claims are respectfully solicited.

The Commissioner is requested to charge any fee deficiency of overpayment in connection with this amendment to Deposit Account 19-1345.

Respectfully submitted,



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